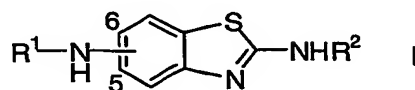


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WE CLAIM:

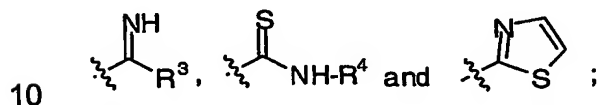
1. A compound of Formula I, and pharmaceutically acceptable salts, hydrates, solvates and prodrugs thereof:

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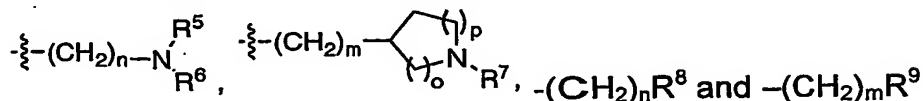


wherein

R¹ is selected from the group consisting of:



R² is selected from the group consisting of H,



R³ is selected from the group consisting of C₁-₆alkyl, SC₁-₆alkyl, thienyl and furanyl;

15 R⁴ is selected from the group consisting of H, C₁-₆alkyl, Ph, C(O)Ph and -C(O)C₁-₆alkyl;

R⁵ and R⁶ are independently selected from the group consisting of H and C₁-₆alkyl or together R⁵ and R⁶ and the nitrogen to which they are attached form a 3 to 7-membered azacarbocyclic ring wherein one of the carbon atoms
20 in the ring may optionally be replaced with O, S, or NR⁷;

R⁷ is selected from the group consisting of H, C₁-₆alkyl, Ph, Heteroaryl, CH₂Ph, and CH₂Heteroaryl, with Ph and Heteroaryl being optionally substituted with 1-3 groups independently selected from the group consisting of C₁-₄alkyl, halo, OH, OC₁-₄alkyl, NH₂, NH(C₁-₄alkyl), N(C₁-₄alkyl)(C₁-₄alkyl),
25 nitro and cyano;

R⁸ is selected from the group consisting of H, OH, Ph, naphthyl and heteroaryl, with Ph, naphthyl and heteroaryl being optionally substituted with

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1-3 groups independently selected from the group consisting of C₁₋₄alkyl, halo, NH₂, NH(C₁₋₄alkyl), N(C₁₋₄alkyl)(C₁₋₄alkyl), nitro, cyano, OH and OC₁₋₄alkyl;

R⁹ is C₃₋₇cycloalkyl optionally substituted with 1-3 groups independently selected from the group consisting of C₁₋₄alkyl, halo, NH₂, NH(C₁₋₄alkyl), N(C₁₋₄alkyl)(C₁₋₄alkyl), nitro, cyano, OH and OC₁₋₄alkyl and one or two of the carbon atoms in C₃₋₇cycloalkyl may optionally be replaced with O or S;

n is 1-6;

m is 0-6;

o is 0-2;

10 p is 1-2; and

the group R¹NH- is attached to the 5- or 6-position of the aminobenzothiazole ring, with the proviso that, when R⁴ is C₁₋₆alkyl, the group R¹NH- is attached to the 5-position of the aminobenzothiazole ring.

15 2. The compound according to claim 1, wherein R³ is selected from the group consisting of C₁₋₂alkyl, SC₁₋₄alkyl and thienyl.

3. The compound according to claim 2, wherein R³ is selected from the group consisting of SC₁₋₂alkyl and thienyl.

20

4. The compound according to any one of claims 1-3, wherein R⁴ is selected from the group consisting of H, C₁₋₄alkyl, Ph, C(O)Ph and -C(O)C₁₋₄alkyl.

25 5. The compound according to claim 4, wherein R⁴ is selected from the group consisting of H, and C(O)Ph.

6. The compound according to any one of claims 1-5, wherein R⁵ and R⁶ are independently selected from a group consisting of H and C₁₋₄alkyl or together R⁵ and R⁶ and the nitrogen to which they are attached form a 4 to 6-membered azacarbocyclic ring wherein one of the carbon atoms in the ring may optionally be replaced with O, S, or NR⁷.

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7. The compound according to claim 6, wherein R^5 and R^6 are independently selected from a group consisting of H and CH_3 or together R^5 and R^6 and the nitrogen to which they are attached form a 5 to 6-membered azacarbocyclic ring.
8. The compound according to any one of claims 1-7, wherein R^7 is selected from H, C_{1-4} alkyl, Ph, Heteroaryl, CH_2Ph , and CH_2 Heteroaryl, with Ph and Heteroaryl being optionally substituted with 1-2 groups independently selected from the group consisting of C_{1-4} alkyl, halo, OH, OC_{1-4} alkyl, NH_2 , $NH(C_{1-4}alkyl)$, $N(C_{1-4}alkyl)(C_{1-4}alkyl)$, nitro and cyano.
9. The compound according to claim 8, wherein R^7 is selected from H, C_{1-4} alkyl, Ph, Heteroaryl, CH_2Ph , and CH_2 Heteroaryl, with Ph and Heteroaryl being optionally substituted with 1 group independently selected from the group consisting of C_{1-4} alkyl, halo, OH, OC_{1-4} alkyl, NH_2 , $NH(C_{1-4}alkyl)$, $N(C_{1-4}alkyl)(C_{1-4}alkyl)$, nitro and cyano.
10. The compound according to claim 9, wherein R^7 is selected from H, Ph, C_{1-4} alkyl and CH_2Ph , with Ph being optionally substituted with 1 groups independently selected from the group consisting of C_{1-4} alkyl, halo, OH, OC_{1-4} alkyl, NH_2 , $NH(C_{1-4}alkyl)$, $N(C_{1-4}alkyl)(C_{1-4}alkyl)$, nitro and cyano.
11. The compound according to claim 10, wherein R^7 is selected from H, C_{1-2} alkyl, Ph and CH_2Ph , with Ph being optionally substituted with 1 groups independently selected from the group consisting of methyl, halo, OH, methoxy, NH_2 , $NHMe$, NMe_2 nitro and cyano.
12. The compound according to claim 11, wherein R^7 is selected from methyl and CH_2Ph .

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13. The compound according to any one of claims 1-12, wherein R⁸ is selected from the group consisting of H, OH, Ph and heteroaryl, with Ph and heteroaryl being optionally substituted with 1-2 groups independently selected from the group consisting of C₁₋₄alkyl, halo, NH₂, NH(C₁₋₄alkyl), N(C₁₋₄alkyl)(C₁₋₄alkyl), nitro, cyano, OH and OC₁₋₄alkyl.

14. The compound according to claim 13, wherein R⁸ is selected from the group consisting of H, OH, Ph, and heteroaryl, with Ph and heteroaryl being optionally substituted with 1 group independently selected from the group consisting of C₁₋₄alkyl, halo, NH₂, NH(C₁₋₄alkyl), N(C₁₋₄alkyl)(C₁₋₄alkyl), nitro, cyano, OH and OC₁₋₄alkyl.

15. The compound according to any one of claims 13-14 wherein heteroaryl is a 5 or 6 membered aromatic ring.

16. The compound according to claim 15, wherein heteroaryl is selected from pyridyl, imidazolyl, thienyl and furanyl.

17. The compound according to any one of claims 1-16, wherein R⁹ is C₃₋₇cycloalkyl optionally substituted with 1-2 groups independently selected from the group consisting of C₁₋₄alkyl, halo, NH₂, NH(C₁₋₄alkyl), N(C₁₋₄alkyl)(C₁₋₄alkyl), nitro, cyano, OH and OC₁₋₄alkyl and wherein one of the carbon atoms in C₃₋₇cycloalkyl may optionally be replaced with O or S.

18. The compound according to claim 17, wherein R⁹ is C₅₋₇cycloalkyl optionally substituted with 1 group independently selected from the group consisting of C₁₋₄alkyl, halo, NH₂, NH(C₁₋₄alkyl), N(C₁₋₄alkyl)(C₁₋₄alkyl), nitro, cyano, OH and OC₁₋₄alkyl and wherein one of the carbon atoms in C₃₋₇cycloalkyl may optionally be replaced with O or S.

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19. The compound according to claim 18, wherein R^9 is C_{5-7} cycloalkyl herein one of the carbon atoms in C_{3-7} cycloalkyl may optionally be replaced with O.

5 20. The compound according to claim 17, wherein R^9 is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, tetrahydropyranyl and tetrahydrofuran.

21. The compound according to any one of claims 1-20, n is 1-4.

10

22. The compound according to claim 21, wherein n is 2.

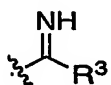
23. The compound according to any one of claims 1-22, wherein m is 0-2.

15 24. The compound according to claim 23, wherein m is 0.

25. The compound according to any one of claims 1-24, wherein both o and p are 1 (to provide a pyrrolidiny ring).

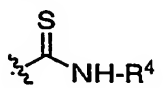
20 26. The compound according to any one of claims 1-24, wherein both o and p are 2 (to provide a piperidiny ring).

27. The compound according to any one of claims 1-26, wherein R^1 is



25

28. The compound according to any one of claims 1-26, wherein R^1 is



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29. The compound according to claim 1 that is selected from the group consisting of:

- N-(2-Amino-benzothiazol-6-yl)-2-methylthiocarboximidamide;
- N-(2-Amino-benzothiazol-6-yl)-2-ethylthiocarboximidamide;
- 5 N-(2-Amino-benzothiazol-6-yl)-2-propylthiocarboximidamide;
- N-(2-Amino-benzothiazol-6-yl)-2-isopropylthiocarboximidamide;
- N-(2-Amino-benzothiazol-6-yl)-2-methylcarboximidamide;
- N-(2-Amino-benzothiazol-6-yl)-2-thiophenecarboximidamide;
- N-[2-(2-pyrrolidin-1-ylethylamino)-benzothiazol-6-yl]-2-
- 10 thiophenecarboximidamide;
- 1-(2-Amino-benzothiazol-5-yl)-3-benzoyl-thiourea;
- 1-(2-Amino-benzothiazol-5-yl)-3-ethyl-thiourea;
- N-(2-Amino-benzothiazol-5-yl)-thiophene-2-carboxamidine;
- N5-Thiazol-2-yl-benzothiazole-2,5-diamine;
- 15 (2-Amino-benzothiazol-5-yl)-thiourea;
- N-[2-(Tetrahydro-pyran-4-ylamino)-benzothiazol-6-yl]-thiophene-2-
- carboxamidine;
- N-{2-[2-(4-Bromo-phenyl)-ethylamino]-benzothiazol-6-yl}-thiophene-2-
- carboxamidine;
- 20 N-[2-(2-Pyridin-2-yl-ethylamino)-benzothiazol-6-yl]-thiophene-2-
- carboxamidine;
- N-[2-(1-Benzyl-piperidin-4-ylamino)-benzothiazol-6-yl]-thiophene-2-
- carboxamidine;
- N-{2-[2-(3H-Imidazol-4-yl)-ethylamino]-benzothiazol-6-yl}-thiophene-2-
- 25 carboxamidine;
- N-[2-(2-Morpholin-4-yl-ethylamino)-benzothiazol-6-yl]-thiophene-2-
- carboxamidine;
- N-[2-(2-Dimethylamino-ethylamino)-benzothiazol-6-yl]-thiophene-2-
- carboxamidine;
- 30 N-{2-[2-(1-Methyl-pyrrolidin-2-yl)-ethylamino]-benzothiazol-6-yl}-thiophene-2-
- carboxamidine;

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N-{2-[2-(3-Chloro-phenyl)-ethylamino]-benzothiazol-6-yl}-thiophene-2-carboxamidine;

N-[2-(4-Hydroxy-butylamino)-benzothiazol-6-yl]-thiophene-2-carboxamidine;

N-[2-(3-Imidazol-1-yl-propylamino)-benzothiazol-6-yl]-thiophene-2-

5 **carboxamidine;**

N2-(1-Benzyl-piperidin-4-yl)-N6-thiazol-2-yl-benzothiazole-2,6-diamine;

1-Benzoyl-3-{2-[2-(4-bromo-phenyl)-ethylamino]-benzothiazol-6-yl}-thiourea;

{2-[2-(4-Bromo-phenyl)-ethylamino]-benzothiazol-6-yl}-thiourea; and

1-{2-[2-(4-Bromo-phenyl)-ethylamino]-benzothiazol-6-yl}-2-ethyl-isothiourea.

10

30. A pharmaceutical composition comprising a compound according to any of claims 1-29 and a pharmaceutically acceptable carrier.

15 **31. A method of treating, or reducing the risk of, a disease or condition which benefits from an inhibition of NOS activity comprising administering an effective amount of a compound according to any one of claims 1-29, including those where R^4 is C_{1-6} alkyl and the group R^1NH- is attached to the 5-position of the aminobenzothiazole ring, to a cell or animal in need thereof.**

20 **32. A use of a compound according to any one of claims 1-29, including those where R^4 is C_{1-6} alkyl and the group R^1NH- is attached to the 5-position of the aminobenzothiazole ring, to treat, or reduce the risk of, a disease or condition which benefits from an inhibition of NOS activity.**

25 **33. A use of a compound according to any one of claims 1-29, including those where R^4 is C_{1-6} alkyl and the group R^1NH- is attached to the 5-position of the aminobenzothiazole ring, to prepare a medicament to treat, or reduce the risk of, a disease or condition which benefits from an inhibition of NOS activity.**

30

34. The method according to claim 31, wherein the disease or condition that may benefit from an inhibition of NOS activity is selected from the group

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consisting of migraine, inflammatory diseases including reversible obstructive airway diseases (e.g., asthma and adult respiratory distress syndrome (ARDS)), stroke, coronary artery bypass graft (CABG), acute and chronic pain, traumatic shock, reperfusion injury, multiple sclerosis, AIDS associated
5 dementia, neurodegenerative diseases, neuron toxicity, Alzheimer's disease, chemical dependencies and addictions (e.g., dependencies on drugs, alcohol and nicotine), epilepsy, anxiety, head trauma, morphine induced tolerance and withdrawal symptoms, acute spinal cord injury, Huntington's disease, Parkinson's disease, glaucoma, macular degeneration, diabetic nephropathy.

10

35. The method according to claim 34, wherein the disease or condition that may benefit from an inhibition of NOS activity is selected from the group consisting of stroke, reperfusion injury, neurodegeneration, head trauma, CABG, migraine, neuropathic pain and chronic pain.

15

36. The use according to claim 32 or 33 wherein the disease or condition that may benefit from an inhibition of NOS activity is selected from the group consisting of migraine, inflammatory diseases including reversible obstructive airway diseases (e.g., asthma and adult respiratory distress syndrome
20 (ARDS)), stroke, coronary artery bypass graft (CABG), acute and chronic pain, traumatic shock, reperfusion injury, multiple sclerosis, AIDS associated dementia, neurodegenerative diseases, neuron toxicity, Alzheimer's disease, chemical dependencies and addictions (e.g., dependencies on drugs, alcohol and nicotine), epilepsy, anxiety, head trauma, morphine induced tolerance
25 and withdrawal symptoms, acute spinal cord injury, Huntington's disease, Parkinson's disease, glaucoma, macular degeneration, diabetic nephropathy.

25

37. The use according to claim 36, wherein the disease or condition that may benefit from an inhibition of NOS activity is selected from the group
30 consisting of stroke, reperfusion injury, neurodegeneration, head trauma, CABG, migraine, neuropathic pain and chronic pain.

30